

10/728,943

Filing Date: August 10, 2001

Attorney Docket No. 78162-32C

Page 2

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (canceled)

2. (previously presented) The composition of claim 36 wherein the high molecular weight polysaccharides and polysaccharide complexes are about  $5 \times 10^5$  Da to about  $5 \times 10^6$  Da.

Claims 3, 4 (canceled)

5. (previously presented) The composition of claim 36 wherein the high molecular weight polysaccharides and polysaccharide complexes contain glucose and at least one monosaccharide selected from the group consisting of: galactose, rhamnose, mannose and arabinose.

6. (previously presented) The composition of claim 5 wherein the high molecular weight polysaccharides and polysaccharide complexes are substantially free of ribose.

7. (previously presented) The composition of claim 36 which is substantially free of nucleic acids and ribonucleic acids.

8. (previously presented) The composition of claim 5 wherein the high molecular weight polysaccharides and polysaccharide complexes also contain N-acetyl glucosamine and N-acetyl galactosamine.

9. (previously presented) The composition of claim 36 which is substantially free of unassociated proteins.

10/728,943

Filing Date: August 10, 2001

Attorney Docket No. 78162-32C

Page 3

10. (previously presented) A composition consisting of high molecular weight *Chlorella* polysaccharides and polysaccharide complexes, wherein the high molecular weight polysaccharide and polysaccharide complexes are about  $1 \times 10^5$  Da to about  $1 \times 10^7$  Da.

11. (previously presented) The composition of claim 10 wherein the high molecular weight polysaccharides and polysaccharide complexes are about  $1 \times 10^6$  Da to about  $5 \times 10^6$  Da.

12. (previously presented) The composition of claim 36 which retains immunomodulating activity upon treatment under conditions and for a length of time sufficient to effect digestion of unassociated DNA.

13. (previously presented) The composition of claim 36 which retains immunomodulating activity upon treatment under conditions and for a length of time sufficient to effect digestion of unassociated RNA.

14. (previously presented) The composition of claim 36 which retains immunomodulating activity upon treatment under conditions and for a length of time sufficient to effect digestion of unassociated proteins.

15. (previously presented) The composition of claim 36 which retains immunomodulating activity upon treatment under conditions and for a length of time sufficient to effect cleavage of glycosidic linkages with at least one glycosidase selected from the group consisting of: amylase, amyloglucosidase, cellulase and neuraminidase.

16. (previously presented) The composition of claim 36 which retains immunomodulating activity upon treatment under conditions and for a length of time sufficient to effect cleavage of:

- (i) three or more  $\alpha$ -1,4-linked D-glucose units;
- (ii)  $\alpha$ -1,4-linked glucosides;

10/728,943

Filing Date: August 10, 2001

Attorney Docket No. 78162-32C

Page 4

- (iii)  $\alpha$ -1,4-linked galactosides; or
- (iv)  $\alpha$ -1,4-linked D-glucose.

17. (previously presented) The composition of claim 14 wherein the treatment is digestion with protease.

18. (previously presented) The composition of claim 36 wherein the high molecular weight *Chlorella* polysaccharides and polysaccharide complexes are from *Chlorella pyrenoidosa*.

19. (previously presented) A pharmaceutical composition comprising the composition of claim 36, in admixture with a pharmaceutically acceptable diluent or carrier.

20. (previously presented) A nutritional composition comprising the composition of claim 36, and at least one energy source selected from the group consisting of carbohydrate, fat and nitrogen sources.

21. (previously presented) A nutritional supplement comprising the composition of claim 36 and a conventional supplement selected from the group consisting of: vitamin E, vitamin C and folic acid.

22. (previously presented) A nutritional supplement comprising the composition of claim 36 and a nutraceutical selected from the group consisting of: fish oils, spirulina and echinacea.

23. (previously presented) A commercial package containing as an active ingredient the composition of claim 36, together with instructions for its use as an immunomodulator.

Claims 24-35 (canceled)

10/728,943

Filing Date: August 10, 2001

Attorney Docket No. 78162-32C

Page 5

36. (previously presented) A composition comprising high molecular weight polysaccharides and polysaccharide complexes from *Chlorella*;

wherein the high molecular weight polysaccharides and polysaccharide complexes are present in the composition at a greater percentage than in a crude *Chlorella* extract;

wherein the percentage of high molecular weight polysaccharides and polysaccharide complexes in the composition is calculated as a proportion (w/w) of the total polysaccharides and polysaccharide complexes in the composition;

wherein the percentage of high molecular weight polysaccharides and polysaccharide complexes in the crude *Chlorella* extract is calculated as a proportion (w/w) of the total polysaccharides and polysaccharide complexes in the crude *Chlorella* extract;

wherein the high molecular weight polysaccharides and polysaccharide complexes are about  $3 \times 10^5$  Da to about  $1 \times 10^7$  Da; and

wherein the crude extract is obtained by a process consisting of the following steps:

- (a) treating *Chlorella* cells with aqueous media for 1 h at 80°C;
- (b) subjecting the treated *Chlorella* cells to centrifugation with a relative centrifugal force of 10,000 g for 20 minutes to remove residual cells and cell debris; and
- (c) micro-filtering the supernatant obtained from step (b).

37. (previously presented) The composition of claim 36 wherein the high molecular weight polysaccharides and polysaccharide complexes are about  $5 \times 10^5$  Da to about  $1 \times 10^6$  Da.

38. (previously presented) The composition of claim 36 wherein the high molecular weight polysaccharides and polysaccharide complexes are about  $1 \times 10^6$  Da to about  $5 \times 10^6$  Da.

10/728,943

Filing Date: August 10, 2001

Attorney Docket No. 78162-32C

Page 6

39. (previously presented) The composition of claim 36 wherein the high molecular weight polysaccharides and polysaccharide complexes are about  $5 \times 10^6$  Da to about  $7 \times 10^6$  Da.

40. (previously presented) The composition of claim 36 wherein the high molecular weight polysaccharides and polysaccharide complexes are about  $7 \times 10^6$  Da to about  $9 \times 10^6$  Da.

41. (previously presented) The composition of claim 36 wherein the high molecular weight polysaccharides and polysaccharide complexes are about  $9 \times 10^6$  Da to about  $1 \times 10^7$  Da.

42. (previously presented) The composition of claim 36 wherein the composition is substantially free of *Chlorella* polysaccharides and polysaccharide complexes of less than about  $1 \times 10^5$  Da.